

CLAIMS

We claim:

1. A method of transmitting television content and television enhancements.

comprising:

transmitting a video program employing a first channel operating at a first frequency;

and

5 transmitting enhancement data employing a second channel operating at a second frequency.

2. The method of claim 1 wherein said second frequency does not correspond to the frequency of a service channel.

3. The method of claim 1 wherein said second channel corresponds to a service channel.

4. The method of claim 1, wherein said enhancement data conforms to Advanced Television Enhancement Forum (ATVEF) specifications.

5. The method of claim 1 wherein said second channel is of smaller bandwidth than said first channel.

6. The method of claim 1, wherein the step of transmitting enhancement data further comprises:

transmitting display channel instructions with the enhancement data, wherein said display channel instructions indicate at least one service channel with which said
5 enhancement data may be associated.

7. The method of claim 6, wherein said display channel instructions conform to extensions to the Advanced Television Enhancement Forum (ATVEF) specification.

8. The method of claim 1, wherein the step of transmitting enhancement data further comprises:

transmitting display time instructions with the enhancement data, wherein said display time instructions indicate at least one time at which said enhancement data may be rendered.

9. The method of claim 8, wherein said display channel instructions conform to extensions to the Advanced Television Enhancement Forum (ATVEF) specification.

10. The method of claim 8 wherein said enhanced content may be rendered independent of the channel currently viewed by a user.

11. The method of claim 1 wherein said enhancement data comprises enhanced content and control information wherein said control information includes information describing at least one program channel with which said enhanced content may be rendered.

12. The method of claim 11 wherein said enhanced content may be rendered independent of the channel currently viewed by a user.

13. A method of enhanced television transmission comprising:

transferring video information, compliant with the ATVEF standard for type A transport, to a transmission system;

altering a URL contained in said video information; and

transmitting said video information.

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14. The method of claim 13 wherein said step of altering comprises altering only the host name portion of said URL.

15. A method of transmitting television content and television enhancements comprising:

accessing video information containing enhanced content;

removing said enhanced content from said video information to produce non-

5 enhanced video information;

transmitting said non-enhanced video information on a first channel having a first frequency; and

transmitting said enhanced content on a second channel having a second frequency.

16. The method of claim 15 wherein said second frequency does not correspond to the frequency of a service channel.

17. The method of claim 15 wherein said second channel corresponds to a service channel.

18. The method of claim 15 wherein said enhanced content is compressed prior to transmission.

19. The method of claim 15 wherein said transmitting said enhanced content further comprises combining said enhanced content with channel information wherein said channel information indicates at least one program with which said enhanced content may be rendered.

20. The method of claim 15 wherein said step of transmitting further comprises: replacing said enhancement data with other enhancement data.

21. The method of claim 20 wherein said other enhancement data is accessed employing a network connection.

22. The method of claim 21 wherein said other enhancement data is accessed on a near real-time basis.

23. The method of claim 20 wherein said other enhancement data is stored locally to a head-end system.

24. The method of claim 15 wherein said step of transmitting said non-enhanced video information on a first channel further comprises:

transmitting information indicating a channel on which enhancement data may be received.

25. A method of transmitting television content and television enhancements comprising:
accessing video content information;
accessing enhanced content associated with said video content information;
transmitting said video content information on a first channel having a first frequency;

5 and

transmitting said enhanced content on a second channel having a second frequency.

26. The method of claim 25 wherein said second frequency does not correspond to the frequency of a service channel.

27. The method of claim 25 wherein said second channel corresponds to a service channel.

28. The method of claim 25 wherein said enhanced content is compressed prior to transmission.

29. The method of claim 25 wherein said step of transmitting said enhanced content further comprises combining said enhanced content with channel information wherein said channel information indicates at least one program with which said enhanced content may be rendered.

30. The method of claim 29 wherein said enhanced content is compressed prior to transmission.

31. The method of claim 25 wherein said enhancement data is accessed employing a network connection.

32. The method of claim 25 wherein said enhancement data is stored locally to a head-end system.

33. The method of claim 25 wherein said step of transmitting said video content information on a first channel further comprises:

transmitting information indicating a channel on which enhancement data may be received.

34. A system for transmitting television content and television enhancements comprising:
a head-end system;
a transmitter;
a network; and

5 a receiver operable to receive a video program on a first channel and operable to receive enhancement data on a second channel.

35. The system of claim 34 wherein said head-end system is operable to remove enhancement data from video information containing a video program and said enhancement data.

36. The system of claim 34 wherein said head-end system is operable to broadcast said video program on a first channel and said enhancement data on a second channel.

37. The system of claim 36 wherein said head-end system is operable to combine timing information with said enhancement data.

38. The system of claim 35 wherein said head-end system is operable to replace said enhancement data with other enhancement data.

39. The system of claim 34 wherein said receiver further comprises:
an algorithm in said receiver, responsive to said video program received on said first channel and said enhancement data received on said second channel, operable to output signals to a display unit.

40. The system of claim 39 wherein said receiver further comprises:
an adjustable tuner wherein the frequency of said second channel may be altered.

41. The system of claim 40 wherein said receiver further comprises:
a software program operable to receive information describing the frequency of said second channel and to adjust the frequency of said second channel in response to said information.

42. The system of claim 34 wherein said receiver further comprises:
an algorithm operable to alter a URL.

43. The system of claim 34 wherein said head-end system is operable to modify a URL.

44. The system of claim 34 wherein said receiver further comprises:

an algorithm operable to associate said enhancement data with said video program and to render an output employing said enhancement data.

45. An enhanced television receiver comprising:
 - a first component operable to receive a signal employing a user selected channel;
 - a second component operable to receive a signal on a second channel;
 - a memory; and
- 5 an algorithm, responsive to program information received on said user selected channel and enhancement data received on said second channel, operable to affect output of signals to a display unit.
46. The receiver of claim 45 further comprising:
 - an adjustable component operable to set the frequency of said second channel.
47. The receiver of claim 46 wherein said adjustable component is responsive to information on said user selected channel.
48. The receiver of claim 46 wherein said adjustable component is responsive to an algorithm operating in said receiver.
49. The receiver of claim 48 wherein said algorithm further comprises:
 - a data structure providing an association between said user selected channel and the frequency of said second channel.
50. The receiver of claim 45 further comprising:
 - a software program operable to store part of said enhancement data in storage local to said receiver.
51. The software program of claim 50 further comprising:

a routine to allocate said storage employing information contained in said enhancement data.

52. The receiver of claim 50 wherein said software program is further operable to compress part of said enhancement data prior to storage.

53. The receiver of claim 50 wherein said software program is further operable to decompress part of said enhancement.

54. The receiver of claim 50 wherein said software program is further operable to render an enhancement employing time information contained in said enhancement data.

55. The receiver of claim 54 wherein said time information conforms to extensions to Advanced Television Enhancement Forum (ATVEF) specifications.